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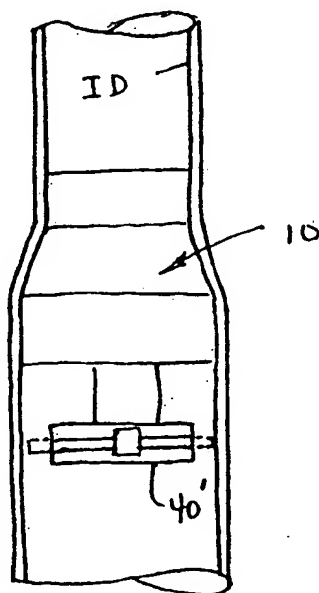
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European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,

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(54) Title: RESIDUAL STRESSES IN EXPANDABLE TUBULAR CASING



(57) Abstract: An elongated section of steel
tubing (30) has an outer circumferential surface
and an inner circumferential surface defining
an elongated axial passage through the tubing.
An expansion mandrel (10) is moved through
the tubing for radially expanding the tubing. An
impact member (40) is provided for travel through
the length of the axial passage. A plurality of
movable impactors (42) are mounted to extend
from the impact member. The impactors are driven
for repeated contact with the inner circumferential
surface as the impact member is moved through
the tubing subsequent to the expansion mandrel
for contacting the expanded inner circumferential
surface along the entire length of the axial passage.
Movement of the impactors is ultrasonic.

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/25742

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : B21C 37/30

US CL : 72/370.06

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
U.S. : 72/370.06, 370.08, 53, 75

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category * | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|-------------|--|--------------------------------------|
| X — Y | US 2,929,741 A (STROCK et al.) 05 January 1960, (05-01-1960), whole doc. | 23 — 15-19 |
| X — Y | US 4,491,001 A (YOSHIDA et al.) 01 January 1985 (01-01-1985), whole doc. | 1-3, 5-7, 21, 22 — 4, 8, 15-19 |
| Y | US 6,343,495 B1 (CHEPPE et al.) 05 February 2002 (05-02-2002), whole doc. | 4, 8 |

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☐ See patent family annex.

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